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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,859	09/30/2003	Kelly Statham	015390550	1877
24628 7590 02/10/2009 Husch Blackwell Sanders, LLP Husch Blackwell Sanders LLP Welsh & Katz 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606				
			EXAMINER LAO, LUN S	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 02/10/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/675,859

**Applicant(s)**

STATHAM ET AL.

**Examiner**

LUN LAO

**Art Unit**

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Introduction*

1. This action is response to the amendment filed on 11-18-2008. Claims 1, 17 and 19 have been amended. Claims 1-20 are pending.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11-18-2008 has been entered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) in view of Magee et al. (US PAT. 7,349,667) and Derks et al. (US PAT. 6,021,119).

Consider claim 1 Shiraishi teaches a method for remotely controlling (see fig.4) a set of functions related to a wireless audio system from a remote central control, said method comprising the steps of:

providing an audio system (fig.4) that includes a transmitter (104,304) and a receiver (105,305);

detecting an audio signal via an acoustic transducer located within the transmitter (see fig. 4 (300));

transmitting data from the transmitter (304) to the receiver (105) of said audio system (see fig.4) and storing said data therein, said data including the detected audio signal two or more characteristics regarding said transmitter.

establishing a link between the receiver of said wireless audio system (fig.4) and a central control for remotely controlling the set of functions through a communication network(reads on 300 in fig. 4 and 100 with speakers network (201-206) and see col. 7 line 44-col. 8 line 18);

determining (see fig.3) whether or not any problems exist (by test tone) by monitoring said data stored in said receiver from said central control; communicating from said remote control to said audio system appropriate remedial actions to alleviate any of said problems (see col. 6 line 13-col. 7 line 42); but Shiraishi does not explicitly teach transmitting a tone burst coded with a frame of data, including a header with address information, a payload and a trailer from the transmitter to the receiver and storing said frame of data therein, said payload of said frame of data containing two or

more characteristics regarding said transmitter disposed within respective predetermined locations of the frame.

However, Magee teaches transmitting a tone burst coded with a frame of data from the transmitter to the receiver and storing said frame of data therein, said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined locations of the repeating frame (see figs 2, 3 and 6 and col. 11 line 25-col. 12 line 59 and col. 7 line 25-col. 8 line 40).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Magee into Shiraishi so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

On the other hand, Derks teaches a frame of data, including a header with address information, a payload and a trailer from the transmitter to the receiver and storing said frame of data therein, said payload of said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined locations of the frame (see figs. 6-7 and col. 7 line 9-col. 8 line 67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Derks into the teaching of Magee and Shiraishi in order to identify the data packet as response data packet.

Consider claims 2-5 Shiraishi teaches that the audio system comprises a wireless audio system (see fig. 4 and see col. 7 line 67); and the wireless audio system comprises a wireless microphone system (300, (306) and see col. 7 line 44-67); and the

transmitter comprises a handheld (see fig.6 and see col. 8 lines 33-55); and the transmitter comprises a body pack (see fig.6 and see col. 8 lines 33-55).

Consider claim 6 Shiraishi as modified by Magee and Derks teaches the receiver comprises a diversity receiver (in Derks, see figs. 1-1-5 and col. 4 line 24-col. 5 line 67).

Consider claims 7 and 9, Shiraishi teaches that the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored but not controlled (see col. 7 line 15-42); and the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored and controlled (see col. 7 line 44-col.8 line 18).

Consider claim 8 Shirashi as modified by Magee teaches that said data is selected from a group consisting of: receiver internet protocol address, receiver link address, receiver RF level, receiver AF level (in Magee, see fig. 6 and col. 11 line 55-67).

Consider claim 10 Shirashi as modified by Magge teaches that said data is selected from a group consisting of: receiver name, receiver frequency, receiver squelch level, receiver meter hold, receiver antenna power, receiver mute, default display on receiver state, receiver lock condition, receiver load present, and receiver save preset(Magee, see fig. 6 and col. 11 line 55- col.12 line 59).

Consider claim 12 it is essentially similar to claim 10 and is rejected for the reason stated above apropos to claim 10.

Consider claim 11 Shiraishi teaches that the communicating step includes the step of transmitting replacement data to said receiver that is implemented by said receiver (see fig.4 and col. 7 line 44-col. 8 line 18).

Consider claims 13-14 Shiraishi as modified by Magee and Derks teach that the receiver of said audio system comprises a master receiver and two or more slave receivers that are operatively coupled to said master receiver, each of said slave receivers including a slave transmitter associated therewith(in Derks, see figs. 1-1-5 and col. 4 line 24-col. 5 line 67); and the transmitting step comprises the step of transmitting data from the slave transmitter associated with one of said slave receivers to said master receiver, and transmitting said data from said master receiver to said central control (in Derks, see figs. 1-5 and col. 4 line 24-col. 5 line 67).

5. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US PAT. 6,954,538) as modified by Magee et al. (US PAT. 7,349,667) and Derks et al. (US PAT. 6,021,119) as applied to claim 1 above, and further in view of Chang (US PAT. 6,337,913).

Consider claim 15 Shirashi as modified Magee teaches that the said transmitting step (see fig.4) comprises the steps of combining data associated with said transmitter with a tone signal (fig.3), mixing said combined data/ tone signal with an audio signal, and transmitting said combined data/ tone/audio signal to said receiver (see col. 6 line 13-col. 7 line 42); but Shirashi does not explicitly teach that the said transmitting step comprises the steps of combining data associated with said transmitter with a pilot tone signal, mixing said combined data/pilot tone signal with an audio signal, and transmitting said combined data/pilot tone/audio signal to said receiver.

However, Chang teaches that the said transmitting step (see fig.4) comprises the steps of combining data associated with said transmitter with a pilot tone signal (33), mixing said combined data/pilot tone signal with an audio signal, and transmitting said combined data/pilot tone/audio signal to said receiver (see col. 3 line 63-col. 4 line 12).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Chang into the teaching of Shiraishi and Magee to achieve a high receiving performance.

Consider claim 16 Chang teaches that the pilot tone signal is at approximately 32 kHz (see abstract).

6. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derks et al. (US PAT. 6,021,119) in view of McMeekin (US PAT. US 5,872,814).

Consider claim 17, Derks teaches a wireless microphone system comprising(see fig.4):

- a microphone(46);

- a CPU (see fig.4 (40) microcontroller) that digitally provides coded (see col. 4 line 24-col. 5 line 67) and serialized information including a frame of data containing a header with address information, and a payload including a plurality of status indicators of the wireless microphone said plurality of status indicators disposed within respective predetermined locations of the payload of the frame (see figs 6-7 and col. 7 line 9-col. 8 line 67); but Derks does not explicitly teaches tone burst creation circuitry that incorporates the provided coded and serialized information into a pilot tone burst; and a



wireless transmitter that wireless transmits an audio signal from the microphone mixed with the pilot tone burst.

However, McMeekin teaches tone burst creation circuitry(reads on pre-distortion processor in fig.1 (120')) that incorporates the provided coded and serialized information into a pilot tone burst(110'); and a wireless transmitter (TRANS) that wireless transmits an audio signal from the microphone(reads on 190) mixed with the pilot tone burst (114' and see figs 1-3 and col. 4 line 45-col. 5 line 67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of McMeekin into Derks so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 18 Derks teaches a wireless receiver located in the surrounding area of the wireless microphone that receives the transmitted audio signal and plurality of status indicators from the wireless microphone; a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network ( see figs. 1-5 and col. 4 line 24-col. 5 line 67).

Consider claim 19 Derks teaches a wireless microphone system comprising (see fig.4):

a handheld wireless microphone or body pack including an audio management block(see fig.2),

a CPU(see fig.4 (40) microcontroller);

a modulator(40) and  
an output antenna(48a) wherein the audio management block changes an audio signal into an electric signal, the CPU provides coded ( see col. 4 line 24-col. 5 line 67) and serialized information about the handheld wireless microphone or body pack including a data frame including a header with address information and a payload, the CPU modules with the coded and serialized information including the data frame where the coded and serialized information occupies respective predetermined locations within the frame and the modulator modulates the changed audio signal for wireless transmission through the output antenna(see figs 6-7 and col. 7 line 9-col. 8 line 67); but Derks does not explicitly teaches the mixing the changed audio signal with the pilot tone burst for wireless transmission through the output antenna.

However, McMeekin teaches the mixing the changed audio signal with the pilot tone burst (see fig.1 (110') for wireless transmission through the output antenna (see figs 1-3 and col. 4 line 45-col. 5 line 67).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of McMeekin into Derks so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 20 Derks teaches the wireless microphone system further comprising:

a wireless receiver located in the surrounding area of the handheld wireless microphone or body pack that receives the transmitted audio signal and plurality of

status indicators from the wireless microphone(see fig.2 (46)); a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network( see figs. 1-5 and col. 4 line 24-col. 5 line 67).

### ***Response to Arguments***

7. Applicant's arguments with respect to claim1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Haupt (US 2002/0042282) is cited to show other related method and apparatus for remote control of an audio source such as a wireless microphone system.

9. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:  
**(571) 273-8300**

Hand-delivered responses should be brought to:  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See  
/LUN-SEE LAO/  
Examiner, Art Unit 2614  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 02-03-2009

/Vivian Chin/  
Supervisory Patent Examiner, Art Unit 2614